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FREDERICK W. GIBB, III  
Gibb & Rahman, LLC  
2568-A RIVA ROAD  
SUITE 304  
ANNAPOLIS, MD 21401

EXAMINER

STARKS, WILBERT L

ART UNIT	PAPER NUMBER
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2129

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/658,623

Applicant(s)

FAN ET AL.

Examiner

Wilbert L. Starks, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 U.S.C. §101***

1. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-26 is directed to non-statutory subject matter.

2. None of the claims is limited to practical applications that indicate a specific practical utility for the claimed invention. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "history files" references are just such abstract ideas.

3. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete

agreement with those decisions. *Warmerdam* is consistent with *State Street*'s holding that:

Today we hold that *the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces "a useful, concrete and tangible result" -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades*. (emphasis added) *State Street Bank* at 1601.

4. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly *did not* go so far as to make business methods *per se* statutory. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application* that indicates a specific practical utility for the claimed invention. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

5. The court was being very specific.

6. Additionally, the court was also careful to specify that the "useful, concrete and tangible result" it found was "a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (i.e. the trading activity is the further practical use of the real world

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monetary data beyond the transformation in the computer – i.e., “post-processing activity”).)

7. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

8. Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating ‘abstract ideas’ or ‘natural phenomena’ ... As the Supreme Court has made clear, ‘[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

9. Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “history files” to solve purely algorithmic problems in the abstract (i.e., what *kind* of “history files” are used? Heart rhythm data? Algebraic equations? Boolean logic problems? Fuzzy logic algorithms? Probabilistic word problems? Philosophical ideas? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for manipulation of “history files” is provably even more abstract (and thereby less limited in practical application) than pure “mathematical algorithms” which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.
10. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.
11. Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a “useful, concrete and tangible result”. There is only manipulation of abstract ideas.

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12. The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T Corp. v. Excel Communications, Inc.* decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. \*\*\* The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation'; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

13. Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the *AT&T* decision cited above, the Court reaffirms that this is the issue for assessing the "useful, concrete, and tangible" nature of a set of claims under §101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the dispositive issue in this analogous case.

14. The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant's idea of "history files" is simply an abstract construct that does not provide limitations in the claims to the transformation of real world data (such as monetary data or heart rhythm data) by some disclosed process.

Consequently, the necessary conclusion under *AT&T*, *State Street* and *Warmerdam*, is straightforward and clear. The claims take several abstract ideas (i.e., "history files" in the abstract) and manipulate them together adding nothing to the basic equation.

Claims 1-26 are, thereby, rejected under 35 U.S.C. §101.

***Claim Rejections - 35 U.S.C. §112***

The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention:

Claims 1-26 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

("The how to use prong of section 112 incorporates as a matter of law the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112."; In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with §112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**") See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Examiner made a §101 utility rejection of the claims because they fail to indicate a specific practical utility (i.e., practical application) for the claimed invention. Therefore, claims 1-26 are rejected on this basis.

***Response to Arguments***

Applicant's arguments filed 01/18/2007 have been fully considered but they are not persuasive. Specifically, Applicant argues:



### **Argument 1**

#### **II. 35 U.S.C. §101 Rejections**

Claims 1-26 continue to stand rejected under 35 U.S.C. §101 on the basis of the claimed invention being directed to non-statutory subject matter. These rejections are traversed as explained below.

In the Office Action dated June 29, 2006, the Examiner asserted that "the step of 'automatically identifying abnormal actions' fails to render the claims statutory because it recites not a tangible result by not specifying what happened after the identifying method step" and "that the step of 'comparing said anomaly score for each of said features with said threshold to determine whether each anomaly score exceeds said threshold' fails to render the claims statutory because it recites not a tangible result by not specifying what happened after 'comparing' and 'determine'." In the Final Office Action dated October 18, 2006, the Examiner indicated that the "amended claims discussed abnormal actions but they are silent about normal actions." Therefore, the Examiner affirmed the 35 U.S.C. §101 rejection of claims 1-26. The Applicant's respectfully disagree.

It is generally understood that method inventions as a whole must produce a "useful, concrete and tangible result." (See State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02). It is also generally understood so that patents are not obtainable for simple ideas or concepts (see Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966)); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). The Applicant's submit that the claims, as amended, indeed recite a useful, concrete and tangible result.

Applicant's argument is a conclusory statement that the claims are statutory.

Examiner reads the claims as a whole to carefully search for claim limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory claim limitations.

Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory claim limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

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Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

### **Argument 2**

Specifically, the method of the present invention, as set out in amended independent claims 1, 8, 14 and 20 produces, not one, but several useful, concrete and tangible results. For example, the Examiner considers these independent claims non-statutory subject matter because they don't recite a tangible result by not specifying what happened after the identifying". Thus, a feature of "reporting said anomalous events" has been amended into the independent claims.

Support for this feature is contained in paragraph [0063] of the specification which states that "when an abnormal state happens, the inter-feature model will capture their differences from normal state and report the problem to the user of the system." The reporting of anomalous events during live system operations is clearly a concrete and tangible result within the meaning of 35 U.S.C. §101. The result is also useful to managing system operations. As such the final result achieved by the steps set forth in the claims is "useful, tangible and concrete." Other useful, tangible and concrete results of the claimed method include, the model that is created as well as the trained file which is stored and contains calculated anomaly scores.

More specifically, the results of the claimed method are "useful." According to the USPTO's Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility, published 26 October 2005 on page 20, to be "useful" a result must be specific, substantial and credible and as such is useful. The final result recites a specific and substantial utility, i.e., creating of a model, calculating of anomaly scores which are stored in a trained file and reporting of anomalous events. The results do not have "throw-away" utility, but rather they relate to the method of the claims and the field of endeavor such that they are specific. Moreover, the results are credible where one of skill in the art would view the claims and the disclosure that the method claimed would indeed result in the indications of anomalous events in live system operations as set forth in the claims and throughout the disclosure. For example, the specification, on page 12, discloses that the invention provides an approach for "anomaly detection (i.e. indication of anomalous situations) that is applicable to a wide range of inductive learners such as decision trees."

Applicant has not distinguished the claims from mere equations or "anomalies" in pure computer subroutines.

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Examiner reads the claims as a whole to carefully search for claim limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory claim limitations.

Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory claim limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

### **Argument 3**

The results are "tangible" According to the USPTO's Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility, published 26 October 2005 on page 21, the tangible requirement "does not mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing." To be tangible, the process must set forth a practical application. A practical application of the present invention is the identification and reporting of anomalous events, i.e. anomaly detection.

Applicant has not distinguished the claims from mere equations or "anomalies" in pure computer subroutines.

Examiner reads the claims as a whole to carefully search for claim limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory claim limitations.

Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory claim limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

#### **Argument 4**

The result is "concrete" According to the USPTO's Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility, published 26 October 2005 on page 22, the question of whether the result is concrete arises when the "result cannot be assured.." The practice of the method step lead to the detection and reporting of anomalies is a system such that the result meets this requirement. It does not appear that the Examiner disputes that the result is indeed concrete and adequately enabled.

Examiner does dispute it. Applicant has not distinguished the claims from mere equations or "anomalies" in pure computer subroutines.

Examiner reads the claims as a whole to carefully search for claim limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory claim limitations.

Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory claim limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

### **Argument 5**

According to the USPTO's Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility, published 26 October 2005, the purpose of the requirement for a "useful, concrete, and tangible" result for subject matter to meet the requirements of 35 U.S.C. § 101 is to "limit patent protection to invention that possess a certain level of 'real world' value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for further investigation or research.." For the foregoing, reasons, the invention has a level of real world value, and is more than a mere idea or starting point for further research. The invention of the claims sets forth spec steps for the identification and reporting of anomalous events in live system operations, which has real world value. Moreover, the identification of the method steps leading to the identification and reporting of the anomalous event set forth more than an abstract concept or starting point for further research. Therefore, one of skill in the art could take the steps of the claims and practice the invention as disclosed.

Applicant has not distinguished the claims from mere equations or "anomalies" in pure computer subroutines.

Examiner reads the claims as a whole to carefully search for claim limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory claim limitations.

Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory claim limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

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Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

### **Argument 6**

The result is concrete and tangible, i.e., identifying and reporting system anomalies, and certainly the result is useful in the management of system operations. As such, the method claims produce a "useful, concrete, tangible result," the claims meet the standards under 35 U.S.C. §101.

Examiner does not agree that "management of system operations" is in any way concrete or tangible. Even if one were to say, arguendo, that it were, Applicant's argument that his claims can be applied to "management of system operations" is insufficient to actually limit his claims to such an application. Such a supposed "limitation" is only a subset of the actual matter limited by the claims. In their broadest reasonable interpretation, the claims include computer programs per se. An argument using erroneously limiting subsets of the actual metes and bounds of the claims is not sufficient to limit the claims to statutory matter because the "claims must be given their broadest reasonable interpretation." See, MPEP 2111 (emphasis added.)

Applicant based his argument on the narrower subsets of the actually claimed matter, thereby presenting erroneously narrow claim interpretations that appear more acceptable than the ones actually drafted into the claims.

Applicant must expressly present limitations that, in their broadest reasonable interpretation, denote statutory limitations to a practical application.

Examiner cannot even rely on Festo's "prosecution history estoppel" to limit the claims to the matter in Applicant's argument, since such doctrine of equivalents issues are actually decided later in Court after an application has been allowed and later contested. Accordingly, Applicant's arguments cannot, at this early stage, be presumed by Examiner to be so limiting.

Examiner reads the claims as a whole to carefully search for actual limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory material. Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Specifically:

- A. Chalasani et al. (U.S. Patent Number 7,055,052 B2; dated 30 MAY 2006; class 714; subclass 004) discloses a self healing grid architecture for decentralized component-based systems.

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B. Hayo et al. (U.S. Patent Number 7,027,962 B2; dated 11 APR 2006; class 702; subclass 197) discloses a system and method for self-configuring and self-optimizing filters.

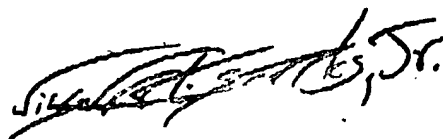
C. Mandal (U.S. Patent Number 6,959,264 B2; dated 25 OCT 2005; class 702; subclass 186) discloses an autonomous computing probe agent.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

Alternatively, inquiries may be directed to the following:

S. P. E. David Vincent (571) 272-3080

Official (FAX) (571) 273-8300



Wilbert L. Starks, Jr.  
Primary Examiner  
Art Unit 2129

WLS

13 APR 2007